Wiener Luftschiffer Zeitung. Wien. 5 Jahrgang. Juli, 1906.
Kress, Wilhelm. Der Einfluss des Windes auf drei in der Luft fliegende Körper. Pp. 141-143.
Hemel en Dampkring. Amsterdam. 4 Jaargang. Juli, 1906.
Smits, P. J. Is de intensiteit van den regenval periodiek? Pp. 37-42.
Memorie della Società degli Spettroscopisti Italiani. Catania. Vol. 35. Dispensa 6a, 1906.
Bemporad, A. Sul modo di variare della radiazione solare durante le fasi di un'eclisse. Pp. 89-102.
Rivista Marittima. Roma. Vol. 39. Giugno, 1905.
Eredia, Filippo. I venti forti nelle coste italiane dell'Adriatico e dell'Jonio. Pp. 533-540.

WEATHER BUREAU MEN AS EDUCATORS.

The following lectures and addresses by Weather Bureau men are reported:

Mr. G. Hass-Hagen, June 8, 1906, before the teachers of the Anderson County Normal Institute, Palestine, Tex., on "Weather Bureau instruments, forecasting, and the utility of the Bureau's work".

Mr. N. R. Taylor, July 26, 1906, before the Southwest Missouri Summer Normal School, in the auditorium of the Springfield, Mo., High School Building, on "Storms".

Classes from colleges, schools, and academies have visited Weather Bureau offices, to study the instruments and equipment and receive informal instruction, as reported from the following offices:

Huron, S. Dak., July 18, 1906, students of the summer school of the Huron College.

Springfield, Mo., July 23, 24, and 25, 1906, the teachers attending the summer normal school at that place.

Vicksburg, Miss., July 13, 1906, a party of teachers spending the summer at the St. Francis Xavier Academy, in that city.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

In middle and southern latitudes of the North Atlantic Ocean barometric pressure averaged high. Over the Azores the barometer fell below 30.00 inches on one day only, the 25th, and at Hamilton, Bermuda, pressures ranged from 30.10 to 30.30 throughout the month. A slight barometric disturbance crossed the British Isles from the 5th to 8th, and pressures were relatively low over the British coasts during the last half of the month, with lowest readings over Scotland from the 18th to 20th and over the southern coasts from the 26th to 30th.

The barometric depressions that appeared over the United States were of slight intensity. The areas of high barometer were unusually well defined, for the season, and the uniform alternation of barometric troughs and crests over the country produced the numerous showers and moderate temperatures that characterized the month generally east of the Rocky Mountains.

The general warm wave of the latter part of June continued in the Middle-Eastern States until July 3. The breaking of this warm wave was attended by heavy showers that occurred in connection with ill-defined barometric depressions that foreran an area of high barometer of great magnitude which advanced eastward from the north Pacific coast.

BOSTON FORECAST DISTRICT.

Rainfall, while generally in excess of the monthly average, was chiefly in the form of showers, and temperatures showed moderate variations from the normal. Dense fogs were a conspicuous feature in the coast districts. No warnings were issued and no destructive winds occurred.—*J. W. Smith, District Forecaster.*

NEW ORLEANS FORECAST DISTRICT.

Rainfall was excessive in nearly all parts of the west Gulf districts, and temperature was generally below the normal. Special warnings were neither issued nor required.—*I. M. Cline, District Forecaster.*

LOUISVILLE FORECAST DISTRICT.

Moderate temperature and showery weather prevailed throughout the month. The principal cool spell extended from the 3d to 9th, and there were no protracted periods of unusually high temperature. Heavy thunderstorms occurred at frequent intervals and some damage was caused by heavy local rains. No special warnings were issued.—*F. J. Walz, District Forecaster.*

CHICAGO FORECAST DISTRICT.

No severe storms occurred and no storm warnings were issued. A marked area of high pressure during the first week of the month caused low temperatures in the cranberry marshes of Wisconsin, minimum readings of 33° being recorded at two places on the morning of the 6th. Warnings of light frost were issued in advance of these readings—*A. J. Henry, Professor and District Forecaster.*

DENVER FORECAST DISTRICT.

Thunderstorms were numerous and occurred with heavy precipitation almost daily in a narrow belt extending along the Continental Divide from southwestern Wyoming to central New Mexico; elsewhere in the Rocky Mountain districts rainfall was generally below the normal and temperature was unusually low. At several stations on the eastern slope the month was the coolest July on record.—*F. H. Brandenburg, District Forecaster.*

SAN FRANCISCO FORECAST DISTRICT.

The month as a whole was one of quite pleasant weather. Afternoon thunderstorms were frequent in the Sierra Madre and in the southern portion of the Sierra Nevada mountains. Along the coast the month was marked by considerable cloudiness with morning and afternoon fogs.—*A. G. McAdie, Professor and District Forecaster.*

PORTLAND, OREG., FORECAST DISTRICT.

The month was the warmest July on record since the early seventies, and then it was equaled and not exceeded. Rainfall was light and no heavy rains were reported in any part of the North Pacific States. Warnings were not issued or required.—*E. A. Beals, District Forecaster.*

RIVERS AND FLOODS.

There was no high water of consequence during the month in any of the rivers on which river and flood service is maintained.

The Mississippi and Missouri rivers were highest at the beginning of the month, and fell slowly throughout the month.

The Ohio River and the rivers of the Southeastern States were highest from the 15th to the 25th owing to the heavy rains during that period; several of the smaller streams showed marked rises, especially in the headwaters, due to heavy local rains.

Flood stages were reached at but two stations; warnings were issued for high water in the Trinity River on July 27 and were fully justified.

On July 1, 1906, Columbia, S. C., was made a district center, with territory comprising the watersheds of the Edisto and Santee rivers; and the district center for the rivers of California was transferred from San Francisco to Sacramento, Cal.; provision is being made for additional stations and improved river service in both these districts.

The highest and lowest water, mean stage, and monthly range at 280 river stations are given in Table VI. Hydrographs for typical points on seven principal rivers are shown on

Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

CLIMATOLOGICAL SUMMARY.

By Mr. JAMES BERRY, Chief of the Climatological Division.

TEMPERATURE AND PRECIPITATION BY SECTIONS, JULY, 1906.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation. Of course the number of such records is smaller than the total number of stations.

Section.	Temperature—in degrees Fahrenheit.							Precipitation—in inches and hundredths.					
	Section average.	Departure from the normal.	Monthly extremes.					Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.	Lowest.	Date.			Station.	Amount.	Station.	Amount.
Alabama	78.8	— 1.2	6 stations	100	1	Riverton	55	4	8.50	+3.50	Maple Grove	14.11	Thomasville	3.35
Arizona	81.9	— 0.3	Fort Mohave	122	24	Quakingasp	30	3	1.94	+0.28	*Pinal Ranch*	5.33	Mohawk Summit	0.00
Arkansas	76.7	— 3.4	6 stations	99	5 dates	Ozark	48	3	5.96	+2.17	Arkansas City	12.95	La Crosse	0.97
California	76.8	+ 2.7	Indio	120	24	Tamarack	28	15	0.04	—0.01	Montague	1.27	Many stations	0.00
Colorado	63.4	— 3.2	Lamar, Las Animas	101	23, 3 dts.	Breckenridge, Longs Peak	27	5, 3	2.50	+0.28	Stonewall	7.44	Manassa	0.09
Florida	81.0	— 0.5	Fort Meade, Marianna	99	22, 9	DeFuniak Springs	60	1,2	9.50	+2.40	Brooksville	20.54	Key West	1.92
Georgia	77.9	— 2.0	Elberton, Marshallville	101	1, 1	Diamond	56	10	8.41	+3.21	St. Marys	20.03	Macon	3.88
Hawaii	†74.7	.....	Pahala, Hawaii	95	18	Volcano House, Ha.	50	5	‡5.36	.....	Honomanu Val, Maui	20.22	4 stations	0.00
Idaho	70.6	+ 3.4	Garnet	108	21	Forney, Lake	34	1	0.19	—0.36	Salem	1.32	9 stations	0.00
Illinois	73.9	— 1.8	Bloomington, Palestine	100	22, 1	Streator	43	5	2.41	—1.08	Carlinville	7.73	2 stations	0.47
Indiana	73.7	— 1.9	Mount Vernon, Salem	97	11, 19	Plymouth	45	23	3.15	—0.03	Vevay	7.95	Salem	0.57
Iowa	70.9	— 3.5	Atlantic	102	21	Washta	42	7,8	3.04	—1.31	Independence	7.05	Tipton	0.26
Kansas	73.8	— 4.0	Coolidge	102	31	Wallace	42	4	4.65	+0.82	Yates Center	9.46	*Oberlin*	1.71
Kentucky	75.2	— 2.1	Highbridge	100	2	Farmers, Greensburg	51	25, 27	6.02	+1.92	Williamsburg	11.52	Franklin	2.03
Louisiana	81.3	— 0.3	Alexandria, Reserve	102	1, 6, 9	Plain Dealing, Ruston	60	4, 5	7.97	+2.45	Franklin	13.84	Crowley	2.55
Maryland and Delaware	74.0	— 1.3	Cambridge, Md., Porto Bello, Md.	96	1, 2, 19	Deer Park, Md., *Oakland, Md*	42	25, 25	5.20	+0.40	Seaford, Del.	11.56	Cumberland, Md	1.64
Michigan	67.7	— 1.0	Hagar, Jackson	98	14, 22	3 stations	33	3 dates	2.57	—0.37	Grape	5.93	Sault Sainte Marie	0.22
Minnesota	68.3	— 1.3	Wabasha	97	1	Hovland	38	2	2.93	—0.70	Wadena	7.42	Two Harbors	0.43
Mississippi	79.3	— 1.7	*Magnolia*	102	1	Duck Hill	56	5	5.99	+1.06	Corinth	15.88	Hazlehurst	2.82
Missouri	74.7	— 2.5	3 stations	100	22	Louisiana	48	25	3.53	—1.00	Bolivar	8.18	Darksville	0.40
Montana	67.6	+ 2.0	Plentywood	109	29	Grayling	28	15,28	0.59	—0.91	Nye	2.64	2 stations	0.00
Nebraska	70.2	— 3.6	Fairbury	102	20	Agate	38	4	2.70	—0.76	University Farm	7.88	Springview	0.37
Nevada	74.7	+ 4.2	Logan	114	21,22	Potts	32	25	0.68	+0.31	Palmetto	4.58	3 stations	0.00
New England*	69.1	— 0.3	Van Buren, Me	97	14	Grafton, N. H., Patten, Me.	35	6, 6	4.64	+0.77	*Voluntown, Conn.*	8.17	*Danielson, Conn.*	1.89
New Jersey	72.8	— 1.0	3 stations	94	3 dates	Charlotteburg, Layton	46	8, 7	5.58	+0.32	Sandy Hook	8.28	Englewood	3.44
New Mexico	70.2	— 2.6	San Marcial	110	22,23	Chama	34	5,6	3.48	+1.01	Nara Visa	8.29	Magdalena	0.28
New York	69.4	— 0.2	Elmira	94	20	Indian Lake	35	6	3.74	—0.56	Setauket	8.62	Moira	1.85
North Carolina	75.6	— 1.6	3 stations	100	1	Pink Beds	46	10,28	9.23	+3.38	Selma	17.15	Asheville	4.60
North Dakota	66.9	— 0.6	Melville	102	20	McKinney	34	17	1.97	—0.53	Berlin	5.92	Sentinel Butte	0.13
Ohio	72.1	— 1.8	Norwalk	98	19	Garrettsville, Medina	43	25, 25	5.14	+1.17	Springfield	10.25	Willoughby	1.56
Oklahoma and Indian Territories.	76.5	— 4.2	Mangum, Okla.	103	27	Kenton, Okla.	50	6	5.26	+1.64	Harrington, Okla.	8.74	Cache, Okla	0.92
Oregon	71.3	+ 6.5	Umatilla	115	4	Granite, Silver Lake	31	27, 18	0.14	—0.52	Odell	2.07	23 stations	0.00
Pennsylvania	71.3	— 0.7	Bellefonte	95	2	Baldwin	38	2	4.31	—0.47	Kennett Square	8.98	Hyndman	1.41
Porto Rico	78.3	.....	Adjuntas, Guanica	95	21, 22, 25	Adjuntas, Corozal	53	11, 16, 24	8.09	.....	Rio Blanco	18.42	Guanica	1.30
South Carolina	78.4	— 1.3	Yorkville	100	1	Trenton	56	13	8.40	+2.71	Clemson College	17.77	Little Mountain	4.01
South Dakota	69.6	— 2.3	Cherry Creek	107	21	Ashcroft, Rosebud	38	15, 3	1.45	—1.32	Tyndall	3.42	Kennebec	0.18
Tennessee	75.2	— 2.1	3 stations	100	1	Hohenwald	48	5	6.90	+2.82	Rugby	16.82	Trenton	1.71
Texas	80.3	— 2.0	Big Springs	108	23	Claytonville	40	4, 9	4.71	+1.51	Alvin	12.50	Corpus Christi	0.41
Utah	71.6	— 0.1	St. George	110	6	Coyote	26	1	0.85	+0.08	Tropic	2.99	3 stations	T.
Virginia	74.0	— 1.7	Rocky Mount	101	1	Blacksburg, Burkes Garden	43	19, 10	6.05	+1.33	Callaville	10.69	Lincoln	2.66
Washington	72.4	+ 5.6	Mottingers Ranch	112	4,21	Centralia, Goldendale	39	8, 26	0.17	—0.44	Colville	0.74	8 stations	0.00
West Virginia	72.4	— 1.3	Berkeley Springs, Sutton	98	1, 13	Bayard	45	25	4.54	—0.33	Princeton	7.44	Moorfield	1.50
Wisconsin	68.7	— 1.5	Prairie du Chien	96	11	Prentice	36	5	2.55	—1.36	Florence	6.10	2 stations	0.79
Wyoming	62.3	— 2.1	Alcova	103	21	Soda Butte, Y. N. P.	25	3	1.14	—0.05	Alcova	2.43	Green River	0.02

• Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. †49 stations, with an average elevation of 645 feet. ‡142 stations.

THE WEATHER OF THE MONTH.

By Mr. P. C. DAY, Assistant Chief, Division of Meteorological Records.

PRESSURE.

The distribution of atmospheric pressure for July over the United States and Canada is graphically shown on Chart VI, and the average values and departures from the normal are shown for each station in Tables I and V.

The isobaric chart shows well-marked variations from normal conditions and is probably without parallel during any July in the history of the Weather Bureau.

The persistence of areas of high pressure over the northern Rocky Mountain slope and upper Missouri Valley was very